

DI  
EI  
Concl'd

a non-conductive layer having an etched via at least partially over said conductive plug, wherein said etched via is wider in diameter than said conductive plug; and

a conductive connector formed in said via in electrical contact with said plug and including a first conductive layer deposited in and in contact with said etched via and a second conductive layer deposited over and in contact with said first conductive layer, said first conductive layer including a portion in contact with said conductive plug.

11. (Three Times Amended) A semiconductor device comprising:

at least one memory cell comprising:

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an active region in a substrate;

DS

a conductive plug formed of a single conductive material positioned within an insulator layer and provided over said active region, said conductive plug being electrically connected with said active region;

an etch-stop layer deposited on said insulator and around said conductive plug;

an intermediate non-conductive layer provided over said etch stop layer and having at least a first and a second etched via over said plug, said first etched via being wider in diameter than said conductive plug, wherein said second etched via is above and has a greater diameter than said first etched via; and

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a first conductive layer deposited in and in contact with said first and second vias, said first conductive layer including a portion in contact with said conductive plug, and a second conductive layer deposited over and in contact with said first conductive layer.

25. (Three Times Amended) A processor-based system comprising:

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a processing unit;  
a semiconductor circuit coupled to said processing unit, said semiconductor circuit comprising:

a conductive plug formed of a single conductive material positioned within an insulator and provided on a connection region;

an etch-stop layer deposited on said insulator, said etch-stop layer being at the same level as a top portion of said conductive plug;

an intermediate non-conductive layer provided over said etch-stop layer and having at least a first and a second etched via over said conductive plug, said first etched via being wider in diameter than said conductive plug, wherein said second etched via is above and has a greater diameter than said first etched via; and

a conductive connector electrically coupled to said connection region, said conductive connector comprising a first conductive layer deposited in and in contact with said first and second etched vias, said first conductive layer including a portion in contact with said conductive plug, and a second conductive layer deposited over and in contact with said first conductive layer.